

### Training device

The present invention relates to a training device or an apparatus for exercising, sports and gymnastics and therapy, as well as a method for the production of a training device.

For physical training, in particular for home use, but also in fitness centers, many complicated, complex and heavy devices exist, which, moreover, as a rule, are also rather expensive. Conventional strength and endurance devices, also those for private use, are often cumbersome to handle and also require much space, i.e. they cannot be readily removed and be stored for example in a chamber or side room. In addition, the known devices can only be utilized primarily in a single area and for a single purpose and are therefore one-sided. For this reason, many different devices are required to cover all areas which are to be exercised.

A number of less complicated devices are known from prior art. For example the German Utility Patent DE 200 17 464 proposes a multifunction training apparatus, the Utility Patent G 90 06 479.8 and US Patent 5 584 786 disclose semi-cylindrical training devices, as well as US Patents 3 967 820, 4 902 003 and 5 795 276 bench-like training devices, which, while they are simpler of construction compared to conventional training devices, however, all of these can only be applied relatively specifically for a certain exercise purpose. The same applies also to the device described in US 5 496 248.

The aim of the present invention comprises proposing a training apparatus, with which the body can to a large extent be exercised overall. According to the invention an apparatus is accordingly proposed following the wording of claim 1. Proposed is an apparatus

for training, or a training device, which comprises an arched sheet element with a substantially rectangular outline, the curvature or arch enclosing an angle of at least approximately  $30^{\circ}$ . The training device proposed according to the invention is comprised of a rectangular plate, which is preferably at least nearly uniformly curved, and which plate, or which sheet element, has approximately the same thickness or wall thickness over the entire area. According to a preferred embodiment variant, the arch or curve encloses an angle of approximately  $30 - 180^{\circ}$ , preferably approximately  $60 - 100^{\circ}$ .

Again according to a further embodiment variant, the length of the element along a bent edge is approximately  $60 - 120$  cm, preferably approximately  $70 - 90$  cm and the width is in a range of approximately  $40 - 80$  cm, preferably approximately  $45 - 60$  cm and the thickness of the element or of the plate is in the range of approximately  $1.5 - 4$  cm, preferably approximately  $1.5 - 2.5$  cm.

Due to its physical form, the training device is bilaterally usable and preferably dimensionally stable, comprised of wood, a polymeric material, such as a reinforced polymer, or it is comprised of a light metal, such as for example aluminum. However, it is also possible to implement the device such that it is slightly elastic by utilizing a correspondingly elastic wood or a slightly elastic polymer.

According to a preferred embodiment variant of the training device according to the invention, the angle enclosed by the arch is approximately  $90^{\circ}$ , the length along the bent edge is approximately  $80$  cm, the width approximately  $50$  cm and preferably a thickness of approximately  $2$  cm is chosen. It is understood that the arching can also be greater or less, it can be circular, oval or elliptical. The specified dimensions can also be greater or less, depending on the requirements

and the target users, whether these be children, adolescents or adults. The surface of the convex side can be provided with a damping coating, such as of an elastomeric material, such as rubber, latex, elastomer polymer, foamed material, etc. The concave side is preferably provided with a non-slip coating. It is furthermore possible to provide on the training device according to the invention grip handles, holes and the like, for example for fastening additional materials.

The production of the training device according to the invention is simple by starting , for example, with a rectangular plate, which is bent to form a quarter circle. It is understood that it is also possible, especially when using polymeric materials, to inject the material into a mold having already a curvature.

The training device proposed according to the invention is astonishingly simple, light-weight, multiply applicable, multifunctional, easy to carry, easy to store, not expensive, simply stackable in extremely small space, in particular when using several devices, such as for example when the devices are employed in exercise centers, fitness centers or in school gymnasiums.

All conditioning factors of physical fitness in the area of strength, endurance, mobility and coordination (balance) can be covered, and, in terms of exercise, this can take place at a low or a high level, prophylactically or also within the framework of rehabilitation. The device can be utilized everywhere, in the home, at the work place, in fitness studios, in health and wellness centers, in physiotherapy or in medical offices, in gymnasiums or other leisure and sports facilities. The device can be employed as an individual station or also for group exercises or as a station in circuit training. Due to its curved form, both sides can be used - the convex side can serve as a stepper for endurance

training or as a support for the harmonic strengthening of the body; through its rocking movement the concave side promotes *inter alia* especially balance or coordination of the entire body. It can also be utilized as a support in mental training.

In conclusion the training device according to the invention will be explained by example in further detail and with reference to the attached drawing, in which depict:

Fig. 1 and 2        in schematic simplification one training device each according to the invention in the two positions of use, and

Fig. 3                an embodiment variant of a training device according to the invention.

Fig. 1 and 2 show schematically that the training device according to the invention is largely a shell in the form of a quarter circle, which either, as shown in Fig. 1, can be disposed such that it is fixedly positioned, or such that it is suitable for balancing exercises in a nonstable position, as depicted in Fig. 2. It is understood that the shell does not need to have the form of a quarter circle, but rather can also be of different segments of a circle, can be implemented elliptically or can have any other desired curvature.

Fig. 3 lastly shows an embodiment variant of a training device 1 according to the invention in perspective view in the fixed position, e.g. with the convex side 4 directed upwardly. The training device 1 again involves a shell of approximately quarter-circle form, which is provided with a damping coating 5 in the central region on its upper convex side 4. This coating can comprise an elastic material, such as rubber, latex, a

foamed substance or another elastic polymer. On the underside, or the concave side, 3 the shell is preferably implemented such that it is slip resistant, i.e. it is provided with a non-slip coating. However, this resistance to slipping can be attained thereby that the surface of the shell is slightly roughened.

The two end edges 9 of the quarter-circle-shaped shell are also preferably implemented such that they are slip resistant or are provided with a non-slip edge protection 8, which, in the manner of clips, can be placed over the end edge 9 or can be, for example, firmly connected with the end edge 9 by adhesion.

Along each of the longitudinal edges or bent edges 2 one grip handle 6 each is provided, for example in order to facilitate the transport of the training device 1. Lastly, at one end of the training device openings 7 are provided, for example for attaching additional materials, such as for example rubber pulls suitable for additional exercise capabilities.

As is clearly evident in Fig. 1 to 3, the training device proposed according to the invention is of extremely simple structure and accordingly is readily producible. The remaining advantages do not need to be discussed further, since these have already been sufficiently recognized above.

It is understood that the training devices depicted in Fig. 1 to 3 are only examples, which can be changed or modified in any desired manner or can be supplemented by further elements. In particular the proportions can be varied, the bending angle, the curvature itself, whether circular, oval, etc., as well as also the materials employed for the production of the training device can be varied or changed. It is understood that it is also possible to provide additional elements, such as perforations, grip

handles and the like.